

# Claims

[c1] What is claimed is:

1.A method for selecting one channel from a plurality of channels in a wireless network system, the channels including at least one in-use channel, a first idle channel, and a second idle channel, the method comprising: determining a first reference value for the first idle channel and a second reference value for the second idle channel by comparing the frequency band of the in-use channel with the frequency band of the first idle channel and the frequency band of the second idle channel; and comparing the first reference value with the second reference value to select one from the first idle channel and the second idle channel.

[c2] 2.The method of claim 1, further comprising: detecting the channels to identify the in-use channel, the first idle channel, and the second idle channel.

[c3] 3.The method of claim 1, wherein if the frequency band interval between the in-use channel and the first idle channel is shorter than that between the in-use channel and the second idle channel, the first reference value is larger than the second reference value.

- [c4] 4.The method of claim 3, wherein the channel selected from the first idle channel and the second idle channel is the one having a smaller reference value.
- [c5] 5.The method of claim 1, wherein if the frequency band interval between the in-use channel and the first idle channel is shorter than the frequency band interval between the in-use channel and the second idle channel, the first reference value is smaller than the second reference value.
- [c6] 6.The method of claim 5, wherein the channel selected from the first idle channel and the second idle channel is the one having a larger reference value.
- [c7] 7.A method used in a wireless network system, the method comprising:  
detecting the status of a plurality of channels in the wireless network system to divide the channels into at least one in-use channel, a first idle channel, and a second idle channel; and  
comparing the frequency band of the in-use channel with the frequency band of the first idle channel and the second idle channel to determine a first reference value for the first idle channel and a second reference value for the second idle channel.

- [c8] 8.The method of claim 7, further comprising:  
comparing the first reference value with the second reference value to select one from the first idle channel and the second idle channel.
- [c9] 9.The method of claim 8, wherein if the frequency band interval between the in-use channel and the first idle channel is shorter than the frequency band interval between the in-use channel and the second idle channel, the first reference value is larger than the second reference value.
- [c10] 10.The method of claim 9, wherein the channel selected from the first idle channel and the second idle channel is the one having a smaller reference value.
- [c11] 11.The method of claim 8, wherein if the frequency band interval between the in-use channel and the first idle channel is shorter than the frequency band interval between the in-use channel and the second idle channel, the first reference value is smaller than the second reference value.
- [c12] 12.The method of claim 11, wherein the channel selected from the first idle channel and the second idle channel is the one having a larger reference value.

- [c13] 13.A method for selecting a channel from a plurality of channels in a wireless network system, the channels comprising at least one in-use channel and at least one idle channel, the method comprising:  
determining a reference value for each idle channel according to the distribution of the at least one in-use channel among the channels; and  
selecting a channel from the at least one idle channel according to the at least one reference value.
- [c14] 14.The method of claim 13 further comprising:  
detecting the status of each channel for identifying the in-use channel and the idle channel.
- [c15] 15.The method of claim 13 wherein the reference value is determined by utilizing mathematical calculation.
- [c16] 16.The method of claim 15 wherein the reference value is determined by a weighted accumulation based on the interval between the idle channel corresponding to the reference value and the at least one in-use channel.
- [c17] 17.The method of claim 16 wherein in the reference value determining step, the farther one of the at least one in-use channel to the idle channel corresponding to the reference value is, the less is accumulated to the reference value.

- [c18] 18.The method of claim 17 wherein in the selecting step, the idle channel corresponding to a reference value with the least weighted accumulation is selected.
- [c19] 19.The method of claim 16 wherein in the reference value determining step, the farther one of the at least one in-use channel to the idle channel corresponding to the reference value is, the more is accumulated to the reference value.
- [c20] 20.The method of claim 19 wherein in the selecting step, the idle channel corresponding to a reference value with the most weighted accumulation is selected.